

United States
Environmental Protection
Agency

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EPA Environmental Advisory

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RADIATION SCANNER VAN SUPPORTS AUSTIN AVENUE SEARCH

- WHO:** United States Environmental Protection Agency (EPA) and its National Air & Radiation Environmental Laboratory (NAREL) in conjunction with the Environmental Monitoring and Surveillance Laboratory (EMSL)
- WHAT:** Mobile radiation scanning in the vicinity of the Austin Avenue Radiation Site, 133 Austin Avenue, Lansdowne, Delaware County, Pennsylvania
- WHY:** To assist in the search for radioactive mine tailings that may have been disposed of near the Site many years ago
- WHEN:** Scanning is scheduled to take place November 6 -15, 1991
- WHERE:** Within a one mile radius of the site; this will include some areas of the Boroughs of Lansdowne and Yeadon and Upper Darby Township in Delaware County, Pennsylvania

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Office of Radiation Programs
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MOBILE SCANNER VAN



The EPA Office of Radiation Programs, Las Vegas Facility operates a Mobile Scanner Van which is used for finding possible sources of radioactive contamination. It is currently being used to support the EPA Superfund effort at Lansdowne, PA to identify possible Radium-226 contamination.

The Scanner Van, a modified commercial delivery van, contains two extremely sensitive detectors used to locate gamma radiation. The vehicle is driven slowly and scans out its right side. The detectors output to a console where the operator interprets the data.

The first detector is a Harshaw 4-inch x 4-inch x 16-inch Thallium activated Sodium Iodide [NaI(Tl)] detector with a 3.5-inch photomultiplier tube. This detector is shielded by an inner stainless steel cylinder filled with lead shot and with a collimated window for gamma ray entry. The collimated scanner system detects radiation from a narrow beam extending perpendicular to the axis of vehicle motion. The outer cylinder is constructed of epoxy-impregnated, filament wound fiberglass. The detector is 101 inches in height and weighs 750 pounds.

The second detector, a Reuter Stokes Pressurized Ion Chamber (PIC) provides a calibrated measurement of the total environmental gamma-ray dose rate. The omnidirectional response is used to characterize the radiation baseline or "background".

Both PIC and NaI outputs are displayed on the operators console, and are also recorded on an analog strip chart recorder in order identify anomalous areas and to provide a permanent record of the survey. The readouts alert the operator to possible contamination which can be further investigated with other field survey instruments.

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